

***REMARKS***

Claims 1 and 3-10 are pending in the application. The applicants respectfully submit that no new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated **March 9, 2004**.

***I. Claim Rejections under 35 USC §103***

- A. Claims 1 and 3-10 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kurtz et al. (U.S. Patent 4,568,604) in view of Burnell-Jones (U.S. Patent 6,207,077 B1).**

The Examiner maintains the rejection of the claims as obvious over Kurtz in view of Burnell-Jones, for reasons of record. Specifically, The Examiner states that Kurtz does not disclose a hollow filler, but that Burnell-Jones discloses the use of calcium carbonate fillers and teaches that hollow microspheres are widely used in resin systems to reduce density, to improve stiffness, to impart resistance, to reduce crazing and to displace large volumes of higher priced polymers. The Examiner concludes that it would have been obvious to replace the fillers of Kurtz with the hollow microspheres of Burnell-Jones.

In response to Applicant's arguments filed on December 8, 2003, the Examiner states that no copies of the "Practical Plastic Encyclopedia" and the "Polyester Handbook" were received by the United States Patent Office.

The Examiner further states that the limitations of tensile elongation percentage and the Barcol hardness are inherently met by the intermediate layer taught by Kurtz because the

intermediate layer of Kurtz and that of the claimed invention, both have the same chemical composition.

At page 5 of the Office Action, the Examiner states that Applicant's argued that Kurtz and Burnell-Jones are non-analogous art. Applicant's are confused because it was *not* argued in the Amendment and Response filed on December 8, 2003, that the references are non-analogous.

***In view of the following, this rejection is overcome:***

**A.** Re-submitted herewith, please find a copy of each of "Practical Plastic Encyclopedia" and the "Polyester Handbook". As discussed in the Response filed on December 8, 2003, these documents establish that the polyester resin taught by Kurtz has a tensile elongation of 2 % or less.

**B.** It is submitted that a *prima facie* case of obviousness has not been established because the ***combination of Kurtz with Burnell-Jones is improper***. The combination is improper because there is no motivation or suggestion supporting the combination, i.e., the skilled artisan would not be motivated to combine the references.

MPEP 2143 discusses the requirements of a *prima facie* case of obviousness. First there must be some suggestion or ***motivation to combine*** the reference teachings or to modify the reference, and second there must be a reasonable expectation of success. Finally, the prior art reference or references when properly combined, must teach or suggest all the claim limitations.

MPEP 2143.01 states that there are three possible sources for a motivation to combine references: the nature of the problem being solved, the teachings of the prior art, and the knowledge of one of ordinary skill in the art. Further, MPEP 2145 (X)(D)(2) states that "It is improper to combine references where the references teach away from their combination.

This section quotes *In re Grasselli*, 713 F.2d 731 (Fed. Cir. 1983) which court held that a claimed catalyst which contained both iron and an alkali metal was not suggested by the combination of a reference which taught the interchangeability of antimony and alkali metal with the same beneficial result, combined with a reference expressly excluding antimony from , and adding iron to, a catalyst.

A combination of references may teach every element of a claimed invention, but without a motivation to combine the references, a rejection based on a *prima facie* case of obvious was held improper. *In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1998).

Further, where the prior art conflicts, all teachings must be considered. The fact that references can be combined or modified is not sufficient to establish *prima facie* obviousness. MPEP 2143.01 further states that a proposed modification cannot render the prior art unsatisfactory for its intended purpose. If it does, then there is no suggestion or motivation to make the proposed modification. Further, the proposed modification cannot change the principle operation of a reference. MPEP 2141.02 states that prior art must be considered in its entirety, including disclosures that teach away from the claims. See also MPEP 2145 (X)(D).

In the present case, claim 1 requires a tensile elongation of 3 % to 50%, and requires that the filler includes hollow filler having a mean particle size of 5 to 200  $\mu\text{m}$ .

Kurtz is directed to solving the problem of air voids encountered when producing synthetic resins by providing an intermediate layer including a filler and a synthetic resin. Burnell-Jones is directed to providing photoluminescent polymer blends useful as gel coats and is concerned with providing resins that can be effectively utilized with phosphorescent particles.

In view of the foregoing, the skilled artisan in view of Kurtz which is concerned with preventing the formation of small air voids by providing a specific intermediate layer, would not be motivated to look to art concerned with a protecting UV phosphorescent pigments (Burnell-Jones, see col. 7, lines 48-61). Likewise, the skilled artisan in view of Burnell-Jones which is concerned with providing resins that can be efficiently used with phosphorescent particles, would not be motivated to look to art directed to preventing air voids (Kurtz). Please see MPEP 2143.01.

Kurtz discloses an FRP laminate having a three-layer structure where the intermediate layer includes unsaturated polyester resin. According to the description of claims 12 and 13 of Kurtz, the resin used for the intermediate layer is a general, not specific, unsaturated polyester resin. Therefore, the tensile elongation percentage of the general unsaturated polyester resin of Kurtz is "2% or less". In support thereof, please see a partial English translation of each of "*Practical Plastic Encyclopedia*" page 230, 1<sup>st</sup> ed., pub. by SANGYO CHOSAKAI, May 1, 1993; and "*Polyester Resin Handbook*" page 270, 1<sup>st</sup> ed., pub. by The Nikkan Kogyo Shimbun, Ltd., June 30, 1985, attached hereto along with a copy of the Japanese documents.

Kurtz does not teach a Barcol hardness of 50 or more, and does not teach a tensile elongation percentage of 3% to 50%, as required by the present claims.

Kurtz does not teach a hollow filler having the claimed mean particle size.

Burnell-Jones discloses luminescent gel coats and moldable resins.

Burnell-Jones does not disclose an FRP laminate having a three-layer structure. Burnell-Jones discloses only a general unsaturated polyester resin for forming or molding. As discussed above, a general unsaturated polyester resin has a tensile elongation percentage of 2 % or less.

Burnell-Jones does not suggest using a hollow filler material in an intermediate layer of a three-layered structure, as presently required.

Kurtz does not disclose a hollow filler, and does not disclose the claimed tensile elongation percentage of 3 % to 50 %. Burnell-Jones does not cure the deficiencies of Kurtz, because Burnell-Jones also does not disclose the claimed tensile elongation percentage, and does not suggest adding a hollow filler to an intermediate layer of a three-layered structure.

In view of amendment to claim 1 and the remarks set forth above, it is submitted that nothing in Kurtz and Burnell-Jones, taken alone or together, render the claimed invention obvious within the meaning of 35 USC § 103. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

In further support of the unobviousness of the present invention, submitted herewith, please find comparative data in the form of a rule 1.132 Declaration evidencing that the tensile elongation percentage of the cured product of the unsaturated polyester resin of Kurtz is less than 2%.

Specifically, as can be seen by the results at page 4 of the Declaration, the average elongation percent of Kurtz, was 1.5%. Again, claim 1 requires a tensile elongation percentage of 3 to 50%.

In view of the arguments set forth above, the re-submitted partial English translations, and the Declaration submitted herewith, it is submitted that nothing in Kurtz and Burnell-Jones, taken alone or together, renders the claimed invention obviousness within the meaning of 35 USC § 103. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

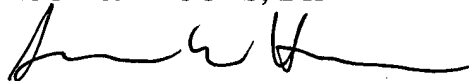
In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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